

AMENDMENTS TO THE CLAIMS

Please cancel claims 2-3, 5-10 and 22-49.

Please amend claims 1, 4, 11-21, and 50-52 and add new claim 53 as shown in the following list of claims.

1. (Currently Amended) An i[[I]]solated polynucleotide[[s]] coding for a ferroportin 1 polypeptide comprising ~~mutated in one of the following amino acids:~~

~~—amino acid at position 80 of SEQ ID NO:2, wherein the glycine at position 80 of SEQ ID NO:2 is substituted with a serine.~~

~~—amino acid at position 174 of SEQ ID NO:2;~~

~~—amino acid at position 248 of SEQ ID NO:2, as compared to the wild type sequence.~~

2-3. (Canceled).

4. (Currently Amended) The isolated p[[P]]olynucleotide according to claim 1 ~~comprising SEQ ID NO:1, wherein nucleotide 238 of SEQ ID NO:1 is characterized in that said polymorphism is a substitution of a G with an A.~~

5-10. (Canceled).

11. (Currently Amended) The isolated p[[P]]olynucleotide according to claim 1, wherein said isolated polynucleotide ~~characterized in that it is genomic DNA.~~

12. (Currently Amended) The isolated p[[P]]olynucleotide according to claim 1, wherein said isolated polynucleotide ~~characterized in that it is mRNA.~~

13. (Currently Amended) The isolated p[[P]]olynucleotide according to claim 1, wherein said isolated polynucleotide ~~characterized in that it is cDNA.~~

14. (Currently Amended) The isolated p[[P]]olynucleotide coding for a mutated ferroportin 1 according to claim 1, wherein the ~~characterized in that its nucleotide sequence of said isolated polynucleotide is~~ corresponds to SEQ ID NO:3, 5, or 7.

15. (Currently Amended) An isolated p[[P]]olynucleotide comprising more than~~carrying at least 10 consecutive nucleotides derived from any one of sequences SEQ ID NO:3, 5, or 7, and characterized by comprising at least one of polymorphic nucleotides respectively selected from the group consisting of:~~

~~—wherein the isolated polynucleotide comprises polymorphism corresponding to position 238 of SEQ ID NO:3;~~

~~—polymorphism corresponding to position 521 of SEQ ID NO:5; or~~

~~—polymorphism corresponding to position 744 of SEQ ID NO:7.~~

16. (Currently Amended) The isolated p[[P]]olynucleotide according to claim 15~~characterized by further comprising at least one of the oligonucleotides corresponding to sequences of SEQ ID NO: 13 or 14.~~~~9-27.~~

17. (Currently Amended) An isolated p[[P]]olynucleotide having a complementary~~sequence complementary as compared to the polynucleotide according to claim 15.~~

18. (Currently Amended) The isolated p[[P]]olynucleotide according to claim 1~~comprising a label, characterized in that it is labelled.~~

19. (Currently Amended) A r[[R]]ecombinant vector~~characterized by comprising the isolated polynucleotide according to claim 1.~~

20. (Currently Amended) An i[[I]]solated cell~~characterized in that it is transfected or transformed with the recombinant vector according to claim 19.~~

21. (Currently Amended) A e[[E]]ukaryotic cell, tissue or non-human animal including a transgene,~~wherein~~ such transgene is at least one isolated~~[[a]]~~ polynucleotide according to claim 1.

22-49. (Canceled).

50. (Currently Amended) A k[[K]]it for the non-HFE hereditary Hemochromatosis diagnosis comprising ~~at least one~~ the isolated polynucleotide ~~of the oligonucleotides~~ according to claim 1.

51. (Currently Amended) A k[[K]]it for hereditary impaired iron homeostasis diagnosis comprising ~~at least one~~ the isolated ~~of the~~ polynucleotide[[s]] according to claim 1.

52. (Currently Amended) A k[[K]]it for detecting a polymorphism selected from the group consisting of: polymorphism of nucleotide ~~corresponding to~~ position 238 of SEQ ID NO: 1, ~~polymorphism of the nucleotide corresponding to position 521 of SEQ ID NO: 1,~~ ~~polymorphism of the nucleotide corresponding to position 744 of SEQ ID NO: 1~~ ~~characterized by~~ comprising at least one of the oligonucleotides of sequence: SEQ ID NO: 13, ~~or 14, 19 or 20~~ optionally in combination with TspR1 ~~at least one of the following~~ restriction enzymes: ~~TspR1, BsmI, PvuII~~.

53. (New) The isolated polynucleotide according to claim 15 or 17 comprising between 15 and 50 consecutive nucleotides.